

What is claimed is:

1. A system for guiding the resection of a bone during arthroplasty, comprising:

- 5 a) anchoring means for anchoring the system to the bone;
- b) a resection guide coupled to said anchoring means;
- c) alignment means for locating the resection guide relative to the anchoring means, said alignment means providing three degrees of freedom; and
- 10 d) a computer navigation system coupled to said resection guide.

15 2. A system according to claim 1 wherein said computer navigation system is optically coupled to said resection guide.

20 3. A system according to claim 1 wherein said three degrees of freedom are infinitely variable.

4. A system according to claim 1 wherein said anchoring means is a pin.

25 5. A system according to claim 1 wherein said anchoring means has an angled body and a side slot adapted to receive a pin.

6. A system according to claim 1 wherein said three degrees of freedom include two rotations and one translation.

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7. A system according to claim 1 wherein said three degrees of freedom include flexion-extension, varus-valgus, and proximal-distal.

10 8. A system according to claim 1 wherein said resection guide is a guiding slot.

9. A system according to claim 1 wherein said resection guide includes means for attaching a computer navigation tracker.

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10. A system according to claim 1 wherein said resection guide includes a rotatable pin guide.

20 11. A system according to claim 1 wherein said resection guide includes means for attaching a manual alignment device.

25 12. A system according to claim 1 further comprising a manual alignment device removably coupled to the resection guide.

13. A system according to claim 12 wherein said manual alignment device includes an alignment handle and an EM rod coupled to said handle.

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14. A system according to claim 13 wherein said alignment handle has two ends, one of which is adapted to rest against the distal femur and the other of which is adapted to rest against the proximal tibia.

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15. A system according to claim 1 further comprising a plane probe, said plane probe including a planar surface and coupling means for coupling it to a computer navigation tracker.

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16. A system for guiding the resection of a bone during arthroplasty, comprising:

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- a) anchoring means for anchoring the system to the bone;
- b) a resection guide coupled to said anchoring means;
- c) alignment means for locating the resection guide relative to the anchoring means, said alignment means providing three degrees of freedom, wherein said anchoring means and said alignment means need not be removed from the bone prior to resection; and
- d) a computer navigation system coupled to said resection guide.

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17. A system according to claim 16 wherein said computer navigation system is optically coupled to said resection guide.

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18. A system according to claim 16 wherein said three degrees of freedom are infinitely variable.

10 19. A system according to claim 16 wherein said three degrees of freedom include two rotations and one translation.

15 20. A system according to claim 16 wherein said three degrees of freedom include flexion-extension, varus-valgus, and proximal-distal.

21. A system according to claim 16 wherein said resection guide includes means for attaching a computer navigation tracker.

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22. A system according to claim 16 wherein said resection guide includes a rotatable pin guide.

25 23. A system according to claim 16 wherein said resection guide includes means for attaching a manual alignment device.

24. A system according to claim 16 further comprising a manual alignment device removably coupled to the resection guide.

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25. A system according to claim 24 wherein said manual alignment device includes an alignment handle and an EM rod coupled to said handle.

10 26. A system according to claim 25 wherein said alignment handle has two ends, one of which is adapted to rest against the distal femur and the other of which is adapted to rest against the proximal tibia.

15 27. A system according to claim 16 further comprising a plane probe, said plane probe including a planar surface and coupling means for coupling it to a computer navigation tracker.

28. A system for guiding the resection of a bone during arthroplasty, comprising:

- a) anchoring means for anchoring the system to the bone;
- b) a resection guide coupled to said anchoring means;
- c) alignment means for locating the resection guide relative to the anchoring means, said alignment means providing three degrees of freedom; and
- d) a computer navigation system coupled to said resection guide, said system being suitable for use in resecting femurs and tibias.

15 29. A system according to claim 28 wherein anchoring means further comprises femoral anchoring means and tibial anchoring means.

20 30. A system according to claim 28 wherein said femoral anchoring means is a pin.

31. A system according to claim 28 wherein said tibial anchoring means has an angled body and a side slot adapted to receive a pin.

25 32. A system according to claim 28 wherein said computer navigation system is optically coupled to said resection guide.

33. A system according to claim 28 wherein said three degrees of freedom are infinitely variable.

34. A system according to claim 28 wherein said three
5 degrees of freedom include two rotations and one translation.

10 35. A system according to claim 28 wherein said three degrees of freedom include flexion-extension, varus-valgus, and proximal-distal.

36. A system according to claim 28 wherein said resection guide includes means for attaching a computer navigation tracker.

15 37. A system according to claim 28 wherein said resection guide includes a rotatable pin guide.

20 38. A system according to claim 28 wherein said resection guide includes means for attaching a manual alignment device.

25 39. A system according to claim 28 further comprising a manual alignment device removably coupled to the resection guide.

40. A system according to claim 39 wherein said manual alignment device includes an alignment handle and an EM rod coupled to said handle.

41. A system according to claim 40 wherein said alignment handle has two ends, one of which is adapted to rest against the distal femur and the other of which is
5 adapted to rest against the proximal tibia.

42. A system according to claim 28 further comprising a plane probe, said plane probe including a planar surface and coupling means for coupling it to a computer
10 navigation tracker.